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Scurvy in Cattle.*

By W. L. LITTLE, F.R.C.V.S., Reading.

There is no record in our literature of scurvy occurring naturally among cattle. The cases which are to be described occurred during the early part of this year among a number of young heifers, some home-bred, some Irish, which were being reared for a dairy and were from twelve months to three and a half years old.

In the early autumn of last year they were running on pastures and later were thrown whole swedes, until about the New Year, when the swedes were replaced by mangolds. The grass having gone, sweet rye grass ensilage, which was much burnt, was added to the ration. At the same time, some of the older ones were put into yards and these received a small quantity of straw for litter, of which some was eaten. Others still older and pregnant were brought in as pregnancy advanced and were given, in addition to the other diet, 3lbs. of cake each *per diem*.

They were all somewhat overcrowded. A ration consisting of ensilage and mangolds, if the animals received all they could consume, would be slightly deficient in dry matter, deficient to nearly 50 per cent. in protein, starch equivalents would be in excess and the antirachitic and antiscorbutic vitamines deficient—a ration one would expect *a priori* to cause scurvy.

About February 13th, when examined, they appeared dull and listless, their coats were long, rough and staring, their dung was in most cases of the colour and consistency of black treacle, evidently from the black ensilage consumed. Occasionally an animal would be noticed to walk a little stiffly or slightly lame, and to have a short, hard, dry cough. Their appetites were not good, but they would continue to feed up to a short time before death. At no time was the temperature found to be abnormal. It was noticed that they licked themselves rather excessively. When one was observed to be really ill it was generally lying down in a natural position, but rose with difficulty, moved stiffly, blundering badly, had short, jerky breathing and, if not given heart stimulants, died within an hour. Some have shown large fluctuating swellings under the skin, particularly in the region of the ribs; these contained bloodstained serum. One animal had enlarged joints and extreme lameness—she was unable to rise for several days, but has recovered. In all eight animals have died, six others have been very noticeably ill, but are recovering.

Post-mortem findings.—Blood examinations (also those made during life) for infective organisms have all been negative. Putrefaction set in rapidly, except in one case. All the visible mucous membranes were blanched. In some instances the mucous membrane of the gums was found to be slightly swollen and of a livid hue, being most noticeable around the molar teeth and more so where there was some periodontal disease. It was possible to demonstrate this in two instances during life. Small petechiæ were noticed on the hairless parts of the muzzle.

In all cases there were hæmorrhages under the skin, some being very extensive. They were also found among the intercostal muscles, the muscles of the hind limbs, under the scapula and into joints. On removing the skin, the carcase appeared wet—as if bathed in serum—the muscles very pale and soft; the blood did not clot well. In no case was the carcase really poor.

The mucous membranes of the fourth stomach and intestines showed some thickening with hæmorrhagic areas, the position and extent of these lesions varying in different animals. The liver and kidneys were pale, as if undergoing fatty degeneration. In two instances the kidneys were very much softened. The spleen was normal; in two instances a well-marked hæmorrhage was found in the splenic omentum and in two others a large hæmorrhage was found under the fat of the kidney. The lungs were congested. The heart was enlarged with, in each instance, dilatation of the right ventricle. The right auricle was black and glistening, evidently from hæmorrhage under the epicardium. In one instance there was slight pericarditis in the region of the large blood vessels. The left heart was generally empty, the right contained a soft clot, the endocardium being dark and bloodstained. Abnormalities were found in the bones of all cases.

In all there was enlargement of some of the costochondral joints, with sub-periostial hæmorrhages, most noticeable on the middle sternal ribs. The long bones showed sub-periosteal hæmorrhages, particularly in the region of the joints; the tibiæ and scapulæ were most frequently affected. There was also some erosion of the joint cartilage. On section, in some instances, alteration of the bone marrow was found, being soft and yellow. It was found that the bones were much easier to saw through than normal ones.

* Presented to the Royal Counties Division at Oxford, on April 24th, 1925.

Period.	Lot "A." About 18 months old. On bare meadow until 17th February, 1925, then placed in sheds.		Lots "B" & "C." 18 months—24 months old, in yards with a bull.		Lot "D." Pregnant, 3½ years old. Previous to having been brought in, were on good pasture.		Lot "E." About 12 months old.	
	Ration.	*Casualties.*	*Ration.*	*Casualties.*	*Ration.*	*Casualties.*	*Ration.*	*Casualties.*
Jan. 1 to Feb. 18	Ensilage (sweet) and Mangolds.	4 deaths. 3 ill.	Ensilage (sweet), Mangolds and little straw.	1 death. 3 developed hæmatoma over ribs.	Ensilage (sweet), Hay Cake, Mangolds and Straw.	None.	Ensilage (sweet), little Straw and Cake.	None.
Feb. 19 to Feb. 23	Kohl rabi, chaff and cut grass with little cake added.	None.	A little cake was added, also cut grass for 1 or 2 days which was then discontinued	None.	Cut grass for 1 or 2 days only, in addition	1 death. 1 ill.	Cut grass for 1 or 2 days only, in addition	None.
Feb. 25 to Mar. 10	Ensilage replaced by Hay.	None.	Ensilage replaced by Hay.	1 death. 1 ill.	Ensilage replaced by Hay.	None.	Ensilage replaced by Hay and Mangolds.	None.
Mar. 12 to Mar. 22	Swedes replace cut grass.	None.	No change.	1 death.	No change.	None.	No change.	None.
Mar. 23 to April 13	No change.	None.	Cut grass added in fair quantities.	None.	Cut grass added in fair quantities.	None.	Cut grass added in fair quantities.	None.

April 14, onwards. As many as possible turned out to grass.

Treatment. Those showing extreme signs of illness were segregated and given heart stimulants and iron. It was recommended that all should have added to their diet some foodstuff which is thought to contain the antiscorbutic vitamine—such as swedes, cabbage, green kale, kohl rabbi, or cut grass. For a short time grass was cut and given to all, but was soon discontinued owing to the trouble involved; they were all given an allowance of cake.

The batch of animals which contained the first to die were given pulped kohl rabbi and they also received grass for a longer period than the others, they are now receiving swedes; grass is being fed to the remainder. No deaths have occurred since they received this addition to the diet, whereas deaths took place in four of the five batches of animals prior to receiving it.

The batch in which no deaths occurred were fed upon ensilage, cake and straw, a much better balanced ration than that given to the others, mangolds only being given when the ensilage was replaced by hay.

My thanks are due to Dr. R. Stenhouse Williams, Captain Golding and other members of the staff of the National Institute for Research in Dairying for the help they so willingly gave to me during this investigation.

Discussion.

The President (Professor Wooldridge): I may say in advance that I am not convinced that the condition so well described by Mr. Little is scurvy; on the other hand, he might easily say "if it is not that, what is it?"—a type of logic that does not appeal very much, expecting you necessarily to give a correct solution to a problem if you do not agree with the solution put forward.

In the earlier part of Mr. Little's paper he outlined the diet which the first lot were having, consisting of ensilage and mangolds and which he described, I think, as being obviously a diet which would be deficient in albuminoids and vitamines. I am not disposed to accept either of those statements. The albuminoid content of ensilage will obviously depend on the herbage from which it is made.

At the present time there is a system of producing ensilage of a high albuminoid content. We should have been informed from what materials the ensilage in question here was made; if it was made from rye-grass it would not be less highly albuminous than if it was made from sainfoin and other leguminous plants which are grown for the purpose of making ensilage.

With regard to vitamines, too, I do not agree that it should be obvious that either ensilage or mangolds would be deficient in that respect. I admit that Mr. Little pointed out that it was a black ensilage, and it must therefore have been submitted to a high temperature in the course of its production, while the antiscorbutic vitamine is the only vitamine which is affected by heat. If the animals were on a place where there was no grass, one could hardly have called it a pasture, whereas, if they were at pasture, one would have expected them to be getting sufficient

for the purposes of nutrition. It may be that the acuteness of the attack was dying down in the later periods and it might have passed away equally well had not the grass been substituted. I have in mind similar diseases of cattle where no alteration in feeding or subsequent treatment has been adopted and where the diseases have followed exactly the same course as has been pointed out here. I do not disagree with Mr. Little's conclusions, but it is possible that what appeared to be a deficiency of vitamines might not have been so in fact. I may say that one of the photographs here, showing the cow with an enlargement on her side which, when opened, contained a lot of bloodstained serum, conforms very closely with other cases with which I have come into contact. In these instances the cattle were all out at good, succulent pasture in March and April, when the wild daffodils were growing profusely. The owner was inclined to blame cake. I had one of the cows brought up to the College and we made microscopic examinations. We were never satisfied as to any bacteriological origin. I also got half a ton of the cake brought up and fed it regularly to cattle, without any ill-effect, nor has it had any on young calves. We got no further towards the solution of the problem. The cows in question were on five different holdings belonging to the same person and the only thing in common in the way of feeding was cake. These cattle occupied a long field and on enquiry we found that the owners on both sides of it had cattle similarly affected.

Mr. COLEMAN: I should like to thank Mr. Little for his extremely interesting paper. A few of us have been interested in this matter during the past season, as we had a Farmers' Union discussion on it, in which we joined. I quite agree with Professor Wooldridge that the facts given are hardly conclusive as to the nature of the disease. The vitamine theory is more or less an accepted one, but we hardly know yet what the vitamines really are. I had a case which I was wondering whether or no might be the same as that depicted by Mr. Little. This was a cow with her second calf. The first appearance of anything wrong was that she had a swelling on each side involving the last four ribs. In the first place each was as big as a saucer, and there was considerable effusion. The swellings spread to the size of a dinner plate. The effusions disappeared, the hair fell off and there was a scab left. No treatment was adopted other than a dressing of zinc chloride solution, which I do not think had any effect. The scabs disappeared in about four months. I should like to ask Mr. Little if he thinks that was scurvy. This case did not arise from the want of vitamines, because the cow had cake and other oily things supposed to contain vitamines. I should like Mr. Little to proceed further and see if he can produce the disease.

The PRESIDENT: He is not allowed to do that.

Mr. HEWER thanked Mr. Little for his paper and continued: I have never met anything that I have diagnosed as similar to the condition described by the essayist, but I was struck by one remark made by him, that the men rather objected to cutting grass when they had to be over their boots in water to do so. In Mesopotamia we had a lot of "fluke" amongst buffaloes and I found that they were getting grass which was being similarly cut by men over their boots in water. We should remember when ordering cut grass to be given when it has to be cut under these circumstances, that animals in a weak condition would take the "fluke" very readily.

Mr. F. WILLETT: I know nothing about scurvy, but it has occurred to me, from the appearance of these bones, that the condition might be rheumatoid arthritis.

Mr. TREWIN also thanked Mr. Little. He had never personally met with any case exactly similar to that presented for their consideration. He had, at times, had cases of sudden death in store cattle after they had been fed largely on mangolds. When mangolds had been carted into the field and scattered about what pasture there had been, some of the animals had eaten more than their share and two or three had been found dead in the morning. If there had been frost at night, that might have had something to do with it. Only two or three weeks since he had a case of some store cattle which were being fed on mangolds, and the pasture was very bad. Though not seen to be ill at all two of these were found dead in the morning after having been apparently in their usual health the evening before. When he made a *post-mortem* the rumen contained very little except mangolds. There was some congestion of the fourth stomach and some hæmorrhages under the serous membranes, and the lungs were congested. His opinion was that the food was the cause. The animals were taken off and given some long hay and the mangolds were reduced, and no further losses occurred. What was remarkable was the fact that two animals died while the others remained apparently in their usual health.

Sir JOHN MOORE: I have never seen the condition in cattle or in horses, but I have experienced scurvy in human beings. Their teeth fell out, but I notice there is no loss of teeth in these specimens. I think the usual cause of scurvy in human beings is the absence of fresh vegetables from the diet. We had no green food at all, and we had to depend on onions and lime juice as antiscorbutics. Most of the officers and men had a certain degree of scorbutic symptoms. I am told it is a fact—and I can certainly bear it out myself—that the craving in horses for greenstuff when they are affected with scorbutic symptoms is intense.

Mr. MALE: I had the opportunity of making, with Mr. Little, a *post-mortem* on one of these animals which died. I had not seen the animals during life, but I had heard about them indirectly. Mr. Little has certainly made out a good case for the disease called scurvy, although I do not agree with him. My reasons for this are several. One is that, in my own opinion, these animals had quite sufficient vitamines to supply anything necessary from that

point of view., We require very little vitamine in the system and although these animals were on poor pasture, they were at grass; they had mangolds, which contain a certain amount of vitamine, and—a point which should be noted—all had ensilage. Another reason for my not agreeing with the essayist is that, although in the animal I saw there certainly were a few hæmorrhages (as you can see from the specimens here), and some of these cattle had swellings on their sides and so on, yet Mr. Little has told you that there were a large number in the same yard, closely confined—and you know if they are confined like that they will bruise themselves and inflict bruises upon one another. You also note that when these bruises were opened serous fluid issued. My own opinion is that these hæmorrhages were due to bruising and that they were serous abscesses. In scurvy cases recorded in pigs and dogs the disease is one which is not sudden in its onset, as in these cases recorded by Mr. Little. These animals were apparently well and anyone looking at them would have said they were in quite good store condition. They were, without any warning, found to be ill and they died very quickly after the first symptoms were noticed. That is altogether different from the symptoms described in these other cases, in which the disease is slow in onset and the animals are weak, anæmic and emaciated, and their skin is hard and dry. In these recorded cases of scurvy one of the most prominent symptoms was, as Sir John Moore has said, that the teeth got loose and there was ulceration of the gums, whereas, in these cases, at any rate in the one I saw, there was nothing to note in regard to the gums or teeth. Then, again, if scurvy could be produced by feeding in the way that these animals have been fed, surely everybody in this room, who is in practice, would have seen numbers of cases of scurvy.

I have never done so, so far as I know, and from the discussion I gather that nobody else has seen any case of it. Mr. Trewin has told us of cases which died from having large quantities of mangolds. That is a common experience. Frosted mangolds, as we know, are very fatal to cattle. My own opinion of the case I saw, and from its *post-mortem* appearances, was that the animal died of some poison—either some mineral poison, or some vegetable poison, probably developed from the ensilage. The small intestines were inflamed, but there was nothing in the other viscera other than what one would expect to find in a case of food poisoning. Therefore, although Mr. Little has made out a strong case, I trust he will pardon me if I say that I do not, for the reasons I have given, agree with him.

The PRESIDENT: I should like to mention a rather curious case, where there were multiple hæmorrhages, which came recently under my notice. This was the case of a fat bullock which had been slaughtered with three others, in prime condition. In dressing the carcase the butcher noticed hæmorrhages in the intercostal spaces, and also that wherever else muscle was exposed there were similar black spots. The meat inspector and the medical officer of health were called in and got the carcase. In all the exposed muscle tissue we found numbers of small hæmorrhages. The carcases of the other three animals, which had been fed with this one all the way through, were absolutely all right. This one had set directly. There were no superficial lesions, but there were these hæmorrhages. Concerning the swellings, in my instances the same suggestion which has been put forward presented itself, but after going over it and examining the different positions in the different cattle of these swellings, we came to the definite conclusion that that was quite out of the question.

THE REPLY.

Mr. LITTLE: I must say I am delighted with the discussion which has taken place on this subject, and what I have received is what I expected. My point is this, that the proof of the pudding is in the eating, and so it is. Professor Wooldridge disputes my statement that the food these animals were receiving was deficient in vitamines. I said that the ensilage was made in the stack method and was very much burnt, so that it had been exposed to the oxidation and a high temperature—two things which will destroy the antiscorbutic vitamine. Experiences have proved that the vitamine in mangold is very scarce—it only appears in the layer of skin above the surface of the ground when the mangold is growing. The only case on record, I think, where scurvy has been reported to have occurred in any other animal than the guinea-pig, was a case which occurred at Shinfield, when some pigs were undergoing experimental feeding for rickets. The pigs were fed on mangolds and one did develop scurvy. The remaining pigs were fed on swedes, and no more pigs developed scurvy. He mentions that I said that these animals were on a pasture. That is true, but there was no grass for them to eat. You all know that cattle will starve where sheep and horses will fatten. He also says that perhaps the fact of these animals recovering when the diet was augmented was a coincidence. If you study this table here as closely as I have done, you will notice that the animals which first started to die were given the feed which I advised and there were no more deaths.

The young animals on this farm had always been poorly developed as long as I had known them—about four years. The animals in the next lot were older and they were fed a little better; they did not develop the trouble until some time afterwards. The next lot were fed still better and it was not until longer again that they developed it. You have, however, to take into consideration that not only is it necessary to have the antiscorbutic vitamine deficiency or absence in diet, but if you want to get scurvy in an animal it must be on a badly-balanced ration. I do not think myself that there is much to call coincidence in the way in which these animals developed the disease and in the way in which they recovered. In Norfolk it was not unusual for us to be called in

to treat animals with these swellings over the ribs. In the spring the cattle there are fed mostly on mangolds. The typical lesions of scurvy are sub-periosteal hæmorrhages and hæmorrhages into the muscle—not the hæmatomas over the ribs. Men on board ship all receive the same diet, but they are not all affected with scurvy when that disease breaks out. Mr. Coleman mentioned a case of an animal with swellings on the ribs. I do not think that can be the same type of thing as what we are speaking about, because he said the hair came off and there was roughening of the skin. He said he would like the disease to be reproduced—I hope attempts will be made to reproduce it by someone who is in a position to experiment. I feel it could be done if animals were fed in the way in which these animals were fed. I could not do it with my client's animals, and with his I had to struggle hard to get him to adopt what I thought a suitable diet, since when not one animal has died. Mr. Hewer mentioned "fluke"—we have had a little in that district. Mr. Trewin said that to him the appearance of the bones was indicative of rheumatoid arthritis. I suppose they did look to him like it. Plimmer, in the *Biological Journal*, recently said that "the condition in pigs which is called rickets is in reality scurvy." It may be that is correct—it is subject to fresh confirmation. I was very interested in Mr. Trewin's report of the animals which were fed on mangolds. What he described is similar to what I have described to-day. I may say that for a long time now I have been looking for scurvy and when I saw these hæmorrhages I went further and found sub-periosteal hæmorrhages, and it is these for which you have to look if you want to prove it is scurvy. Mr. Baxter mentioned animals being ill when fed on mangolds. Mangolds are a very convenient but over-rated food, as far as their food value is concerned. The up-to-date farmer is growing less mangold and more kale and cabbage, because they are better—they have more vitamine. I was interested in Sir John Moore's description of the disease in India. I have had some conversation with Colonel Maddock, who was in the Indian Medical Service. He looked through the specimens for me and said that the hæmorrhages in my cases were quite typical.

The reason I think that animals do not get these lesions, such as are found in the human subject, is that scurvy lesions are produced in such positions as are liable to injury. Men are more liable to injury to the gums and teeth than are cattle and guinea-pigs because of the nature of their food. I was very interested in what Mr. Male had to say, and I ought to thank him very much. He was kind enough to make a *post-mortem* and he was a great help, because he was looking for poisons, and I am glad to say he could not find any. (Laughter.) The contents of the stomach, a piece of liver, and the bowels were examined by a public analyst and no trace of poison could be found. Sections were made of some of the bowels and of the hæmorrhagic portions of the liver and the kidney, by a pathologist in Reading, and he could not find anything definite. The owner has sent lesions away to other people and they have been unable to give any help at all, except on one question. I have a letter from someone in authority who says that though he had had no knowledge of scurvy in animals, he was inclined to think that the illness might be due to some dietetic deficiency. Mr. Male said he would not agree that there was not sufficient vitamine in the food, because little was required—we are not in a position to say how much is required. The amount required is a very difficult thing to assume at present and I think that although there were some vitamines probably present in the food the amount was so small compared with the bulk that the animals did not get sufficient.

With regard to ensilage, I think the ensilage they were receiving was absolutely devoid of vitamines. Mr. Male spoke of the suddenness of the onset—if he had spoken of the suddenness of the deaths he would have been nearer the mark because, although these animals appeared well, they were not so, for the reason that they were incessantly licking themselves, and for an animal to do that incessantly shows that it is not well, for the licking is due to irritation, from hæmorrhages under the skin. He says this is a general method of feeding. So it is, but it is not general to have such a time as we have had during the last twelve months, and the amount of wet has had a good deal to do with the inferior quality of the feeding.

I would suggest to you that perhaps those bony enlargements which we find in horses working in towns may be of the scurvy origin. Horses living in the country do not develop these bony enlargements so much as horses working in a town. They are turned out to grass more frequently.

Value of Bone Meal in Certain Diseases of Cattle.

By V. P. Gokhale, G.B.V.C. (Bombay),
Veterinary Inspector, Perak, Federated Malay States.

This short note is written in the hope that the veterinary profession will give a trial to bone meal by administering it to young growing cattle in whom development becomes stunted; to those cattle which get a plentiful supply of food but become emaciated, to those licking earth freely, and to those known to suffer or supposed to be suffering from parasitic gastritis, and also to other cases of emaciation from obscure causes.

The following is the history of the young animals whose growth was stunted, and of the emaciated cattle that were successfully treated by bone meal.

A cattle farm has been maintained at the Central Mental Hospital, F.M.S., since the latter part of the year 1913, with the object of obtaining a regular supply of good milk for the inmates and also for obtaining manure for vegetable cultivation. They are liberally fed on grass grown on the farm, and are given a ration of conjee made up of broken rice and rice bran, with an addition of a small quantity of salt and oil cake. They are kept in well-ventilated, clean stalls, having

concrete flooring, and are looked after well. They were growing there splendidly till about the June, 1922. At this period there were sixty-seven head of cattle (calves not included), and a few of them seemed running down in condition. Tonic powders made up of ferri sulph., nux vomica, and gentian were administered without benefit. Gradually the number of emaciated cattle increased, the young did not seem to grow normally, and non-contagious abortions, retention of placentæ, and unusually high mortality among calves became of frequent occurrence. Later, they freely indulged in licking earth, had poor appetites, appeared dull and used to grind the teeth. Examination of blood for parasites proved negative. However, liq. arsenicalis was given a trial, and as it yielded improvement in appetite and condition it was administered for over two months, but again the old trouble started among the treated animals, and therefore it was discontinued. At this stage it was thought advisable to destroy some more advanced cases in an endeavour to ascertain the cause on *post-portem* examination. Five such cases were destroyed, and on *post-mortem* examination the only important finding was parasitic gastritis of advanced type and a large quantity of sand present in the abomasum. Owing to this finding, Cu. So4 in solution was administered to the remaining emaciated cattle. This treatment proved much more promising than arsenic treatment, but the improvement was of short duration only as the treated cattle again began to lose condition rapidly. The whole situation became of an alarming nature as, from June, 1922, up to the end of October, 1924, no less than twenty-three young adult cattle died, and five hopeless animals were destroyed for investigation. It was believed that nothing further could be done to save the situation. At this critical juncture the G.V.S., Perak North, Captain G. Moir, O.B.E., F.R.C.V.S., happened to receive a pamphlet entitled " Phosphorus in the Live Stock Industry," reprinted from the *Journal of the Department of Agriculture*, May 1924, and after its perusal thought to give a trial to bone meal, and so 3 ounces of bone meal mixed with a pint of conjee were drenched to each animal daily. Twenty-seven head of cattle were thus treated. Under this treatment they began to show improvement rapidly, and within less than three months they put on flesh, the grinding of teeth and habit of licking earth disappeared, and their appetite became normal. They now appear to be in the best of health and condition.

Concluding remarks :—

(1) No death has occurred from the commencement of the experiment of the administration of bone meal till the present date.

(2) It will be seen from the above that, as a matter of fact, the trouble was not due to infestation with *Haemonchus contortus*, as the Cu. So4 treatment was a total failure, whereas bone meal alone brought on the improvement. It is obvious that chronic parasitic gastritis became prominent owing to impaired health of the cattle.

(3) As bone meal alone proved successful where treatment with drugs failed, there is strong reason to believe that the grass grown on the farm during recent years was highly deficient in phosphorous content, obviously from deterioration of the soil by age and lack of treatment by suitable manures. Unfortunately, analysis of the soil and fodder was not undertaken owing to lack of facilities, and therefore a definite statement of any sort cannot be made. However, judging from the results obtained, there does not seem any reason to doubt the above conclusions.

(4) From the results obtained it can be easily understood that in suitably nourished animals the harm that may be caused by parasites in debilitated and ill-nourished animals is reduced to a minimum.

(5) It must be again emphasised that proper animal nutrition is indisputably one of the chief factors in the prevention of disease.

(6) Bone meal supersedes other phosphorous preparations owing to its power of easy assimilation, its cheap price, by being easily obtainable, and by being non-toxic.

(7) Bone meal has been experimentally found to be most economical for fattening cattle for beef, as, by its regular administration, the assimilation of food is greatly increased and thus a better value for the food given is obtained.

(8) It is most important to remember that bone meal should be procured from a reliable source and must have been sterilised, as recently from the use of Indian bone meal as a farm fertiliser, the deaths of two horses from lung-anthrax were caused in Scotland.

I hope the admirable pamphlet on " Phosphorous in the Live Stock Industry " will be read carefully by those who have not seen it yet, as it contains many important and interesting facts about assimilation and metabolism in cattle when they are given bone meal.

Variorum.

Sodium fluosilicate has proved to be more effective against *Lipeurus variabilis* (wing louse) than sodium fluoride, and fowls treated with this remain free from lice for a longer period. It has also been found satisfactory for cockroaches.

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Potassium sulphate, when added to solutions of novocaine and synthetic adrenalin, enhances and prolongs the anæsthetic action of such solutions.

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Potassium sulphate enters into the composition of Pulv. ipecac. co. It serves to promote the minute division and consequent thorough intermixture of the opium and ipecacuanha upon which the peculiar virtues of the compound depend.

* * * *

Balsam of Sulphur, made by heating one part of Sulp. sub. with four to nine parts of olive oil, enters into the composition of many evil-smelling proprietary preparations sold by animal medicine vendors.

Made into an ointment with a cheap base, it has a large sale in districts where sheep are attacked on the face with midges or gnats.

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Coconut-oil soaps produce a more powerful disinfectant when combined with cresol than soaps produced from linseed oil or soybean oil.

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Chloroform vapour has been used for inflating the mammary glands of cows infected with infectious abortion and the results are encouraging.

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The therapeutic action of adrenalin is complex. A recent report states that it requires over 16,000 cattle to furnish one pound of this substance.

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The therapeutic activity of hexamine is enhanced by the addition of methylene blue, which possesses analgesic as well as antiseptic properties, and is equally active in acid or alkaline urine.

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A label will adhere firmly to the residue left after igniting a small quantity of Tinct. benzoin. co., on a tin container. W. J. Y.

Alleged Sewage Poisoning of a Heifer.

STONE COUNTY COURT CASE FAILS.

At Stone County Court on March 23rd, Wm. Henry James, of Norton Bridge, sued Henry Keen, a neighbouring farmer, for damages amounting to £21 16s. 6d., in respect of a heifer, which, it was alleged, suffered from sewage poisoning as the result of coming in contact with a neglected drain on defendant's farm. Mr. Bertram C. Brough was on the bench and gave judgment in favour of defendant.

The plaintiff's solicitor said that the parties concerned were neighbours, the land of the one adjoining the land of the other. The defendant's rickyard adjoined a field belonging to the plaintiff. Underneath the rickyard was a drain which emptied into a sump just on the junction of the boundary. From the sump to the river ran a ditch. The sewage from the farmhouse ran through the drain to the sump and from the sump to the river. Owing to alleged negligence the ditch became silted up with filth and overflowed on to plaintiff's land, with the result that one of his heifers was very ill from sewage poisoning and necessitated the expenditure of the money claimed.

Plaintiff gave evidence that he spoke to defendant about the ditch in question on May 26th, the day on which the heifer became ill. He called in a veterinary surgeon, and in consequence of what he said he had a conversation with Mr. Keen, who denied putting anything in the drain. The sewer, he thought, was connected with the house and pigsty. The animal aborted a dead calf on May 30th. The veterinary surgeon treated her and she was sold at Norton Bridge market on July 22nd as a barren heifer for £19 4s. 9d., less commission. Her value in ordinary circumstances would have been £30 to £32.

Cross-examined, witness said that he kept other cattle in the same field. The ditch belonged to defendant, and his cows were drinking out of it. In other words, they were trespassing. On examining the ditch witness could see that it had not been cleaned out lately. There was about one foot of black sewage on it. He did not say he could not make any complaint about it. The refuse from the road ran through the drain into the cesspool. The sump was covered in with a big stone.

Mr. Hutchinson, veterinary surgeon, Eccleshall, said he first attended the animal on May 20th, 1924. She was in a very good bodily condition. The animal was in a state of semi-collapse with diarrhœa and showing signs of abdominal pain. He considered that the animal had been poisoned with the sewage, due to *Bacillus coli*. She eventually recovered. The last time he saw her was on 8th June. By then she had lost a considerable amount of flesh.

It was not possible that an animal which was "screwed" could be sold for £19 in the open market. If the animal had been "screwed" it would not have recovered at all.

The symptoms were not identical with yew poisoning. There was no nightshade to be found in the field. He traced the footmarks of one animal down to the water. That was on May 26th, the day the animal was taken ill. The water when stirred up was as black as ink. The water was flowing over the land in some places. He would have expected the animal to make £30 if sold before calving.

For the defence evidence was given to show that the local authorities and sanitary inspectors had done everything possible to keep the drain clean. A number of farmers in the district allowed sewage matter to settle in the drain, and at convenient intervals removed the sediment and used it as manure for their fields. Cattle were frequently put into the fields for grazing purposes. Apart from the question of trespassing that was in itself quite sufficient to show that there was no poisonous matter in the sediment likely to harm the heifer.

Defendant said he remembered plaintiff saying to him that he thought one of his heifers had been poisoned by drinking out of the drain. Defendant replied: "Nothing of the sort; there is a yew tree in the field, and also deadly nightshade." About a month later "plaintiff asked witness to mow his grass and cut his hay, and they would be all square." Witness did as he was requested, but the claim was proceeded with. The drain ran about 300 yards down witness's meadow before it joined the river. He cleaned the drain when, in his opinion, it required cleaning. He never had any complaints from the local authorities after the heifer had been poisoned.

Captain Lomas, M.R.C.V.S., Stone, said he examined the heifer on 27th May. She was in a rather ill-fed condition then. The symptoms of the case were not consistent with poisoning from any sewage. The only source was autogenous due to "feg" and indigestible crude fibre. He said the suggestion of sewage poisoning was ridiculous, but took samples of the water for bacteriological examination.

Cross-examined witness said that if the drain affected one animal it would affect them all. *Bacillus coli* was a frequent cause of diarrhœa in calves and human beings, but not in heifers.

Dr. Henry Edward Annett, lecturer at Liverpool University on Veterinary Pathology, said the heifer's illness, in his opinion, was caused by some form of food poisoning. There were no cases on record of cows being poisoned by *Bacillus coli*.

In giving judgment in favour of the defendant, Mr. Brough said there was very grave doubt as to whether the plaintiff's plea was well founded.

A veterinary hospital for horses, affording free treatment for the animals of the poor in Vester, was opened by Viscountess Charlemont, at Glengormley, Carnmoney, County Antrim, on May 8th. The hospital will be under the professional supervision of Captain Gregg, M.R.C.V.S., O.B.E.

"They put things queerly in the newspapers of long ago, notes the *Western Mail*. A local print of May, 1825, reported as follows:—'Married, on the 7th inst., at Kenfig, after a patient and well-conducted courtship of eighteen years, Mr. Evan Jenkins, a veterinary surgeon, to Margaret, only daughter of Mr. Rees Thomas, yeoman, of that place.' 'Patient and well-conducted' is good. In these days one of them would be at the wrong end of a breach of promise action."

The Veterinary Record.

23rd May, 1925.

THE ELECTION OF COUNCIL R.C.V.S.

The Annual Report of the R.C.V.S., together with the voting papers, are now in the hands of all veterinary surgeons, who have only a few days left during which they may decide for whom they intend to vote at the coming election, as these voting papers must be in the hands of the Secretary, at Red Lion Square, by Thursday, the 28th May. It is difficult to understand why so little interest attaches in these days to the election of representatives. There must be some reason which is shared by a majority, for the large majority does not vote at all. Many opinions are expressed, and the most common is that the trait of indolence and apathy towards everything that is not of personal concern is too all-pervading in our small profession. The lessons of the war and the post-war spirit of SERVICE, of which we hear and read so much as being the characteristics of the nation, seem curiously absent in this small section of it. The welfare of his profession should be a matter of primary importance to a professional man. Is it of no concern—no personal concern—to a member of the Royal College by whom he and his profession are to be governed?—by whom the by-laws are to be framed?—by whom the standard of professional behaviour is to be maintained and men's conduct to be adjudicated upon? Surely it is plain that the answer to these questions is "Yes." It is plainly the duty of every member of the Royal College to make a careful selection of the candidates for whom he thinks he should vote—*in the interests of his profession* and register his votes accordingly. We have heard that some men do not vote because they say they do not know for whom to vote, since they do not know the merits of the candidates. Others vote for the first eight names on the voting paper, as it is too much trouble for them to discriminate and make a judicious selection. Others, again, vote for a *name* because it is well known, not stopping to think whether the man whose name they vote for is likely to make a good and single-minded counsellor. This is all very deplorable, but we hope that each year will see less and less of these unintelligent proceedings. The National Association has done a really great work in bringing men together, getting them to know one another, and infusing into the profession a new spirit and a fuller sense of responsibility. In days to come this new spirit will produce results, and future generations will revere the memory of those who prepared the way to better things and laid the foundations of a proud edifice, just as we venerate the memory to-day of Frank Garnett. Amongst these results, one will be a keen competition to satisfy ambition to serve the profession by being an elected representative on the governing body, and another will be a keen and intelligent list of voters whose one object is to select the most efficient and single-minded men to govern them. A similar spirit should pervade this Association, whose Council should be most truly representative of widely differing interests. Service on the Council, both of the National and the Royal College, should be an honour highly prized, and only conferred upon those who are competent, willing and anxious to serve. Such service is no sinecure if honestly rendered. Indeed, it is a tax on a man's patience, his pocket, his time and his mind, and is not lightly to be undertaken.

We have eleven candidates for eight vacancies on the Royal College Council. It would be out of place to canvass for any of them, as none is seeking election to represent the views of this Association and all are members, but we urge all our members to do their duty this week end and make a point of recording a definite vote in plenty of time. Let us put an end to the reproach that we are apathetic and do not care.

A SANITARY OFFICER'S SUGGESTIONS.

Mr. D. Fletcher, M.R.S.I., Executive Sanitary Officer, Londonderry, in giving evidence before the Commission of Inquiry into Local Government Services in Northern Ireland, at Belfast, at the commencement of this month, said: "The Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908, should be amended so as to include buttermilk and butter, also power at all times and in all places to examine the milking herd. Qualified veterinary inspectors only should be appointed to carry out the provisions of this important order. I suggest power should be given sanitary authority to take samples of milk, and have same bacteriologically examined, with a view to obtain and maintain a condition of cleanliness which does not pertain to-day. Steps should be taken to deal with the law relating to new milk. The Department of Agriculture in 1901 fixed the standard at not less than three per cent. of milk fat, but on proceedings being instituted for any deficiency the defence put up is 'that the milk is sold as it came from the cow.' This is supported by a decided case (Hunt v. Richardson, in the High Court of Scotland), and recently on an appeal being taken to the learned Recorder of Londonderry, his ruling was in favour of the milk vendor, although he was of the opinion that the milk was of inferior quality, and stated that as the law stood he must dismiss the case, to show the futility of these prosecutions. Cases taken recently, being deficient 14 per cent. in milk fat, have been dismissed by the magistrates. Steps should be taken to provide against infected milk being conveyed from dairies in the Free State to consumers in Northern Ireland."

ABSTRACTS.

Anthrax in Horses.

Two light draught horses belonging to a butcher became affected with anthrax. The butcher had previously killed a cow affected with the same disease.

Symptoms.—Large swelling of the superior cervical region; temperature, 40.5° C.; hæmorrhagic discharge. Immediately before death the temperature was 36.8° C. The animals were in a state of extreme prostration; they had a staggering gait and died, one in 12 hours, the other in 26 hours after the first symptoms were observed.

Autopsy.—A sero-hæmorrhagic infiltration of the connective tissue around the œsophagus, larynx and trachea, with swelling and hæmorrhagic infiltration of the lymphatic glands.

Parenchymatous inflammation of the liver, kidneys, heart and muscles, with congestion of the mucous membrane of the bladder.

It is important to note that the spleen and intestines were not altered. The blood contained typical anthrax bacilli.

WEGNER, from the *Deutsche tierarztliche Wochenschrift*, March, 1924, per *Revue Général de Médecine Vétérinaire*, April, 1925.—D. Y.

"Mancha" or "Blackquarter."

In Argentina there has existed for a long time a disease of bovines similar to blackquarter, which has been known by the name of "mancha."

Some authors have maintained that there is a specific difference between the two diseases and that the microbiologic character of the bacilli, coupled with the difference in the age of the animals which are infected, support the contention.

*C. Zanolli and A. Sordelli have carried out careful experiments with a view to confirming or negativing this contention and state that the age of the animals infected by "mancha" and blackquarter is no criterion by which the two diseases can be differentiated. Further, the bacilli causing the two diseases have been found to possess the same cultural and microscopic characters and they produce identical lesions in guineapigs and sheep. Finally, by the agglutination test and the neutralisation of the pathogenic and toxic power of the two bacilli they are proved to be identical bacilli.

**Comptes rendus de la Société de Biologie*, November, 1924, per *Revue Général de Médecine Vétérinaire*, April, 1925.—D. Y.

Immunology of Bovine Infectious Abortion.

In a report written by J. M. Buck and G. T. Creech, Pathological Division, Bureau of Animal Industry, United States Department of Agriculture, published in the *Journal of Agricultural Research*, Vol. XXVIII., Washington, May 17th, 1924, the following conclusions are given:—

1. That it is possible to demonstrate in cattle an immunity to *Bacterium abortus* infection;

2. That such immunity may be demonstrated both in cows that have sustained an attack of the malady, but give evidence of having overcome the infection in their bodies, and in susceptible animals that have been subjected, previously to conception, to the subcutaneous administration of viable abortion bacteria.

3. That whatever immunity may be engendered by the treatment of animals with abortion bacterin, even when administered in large and frequent dosages both preceding and following conception, is limited, and transitory in character.

4. That the vaccination of abortion-infected animals, as well as those which have overcome the infection, is in all probability an illogical and valueless procedure.

5. That the vaccination of non-pregnant heifers near breeding age with suspensions made from strains of *Bacterium abortus* that have been under artificial cultivation for a year or longer appears seldom to result in the permanent infection of such animals.

6. That the possibility of causing permanent infection is greater when the vaccinated animals have functioning udders.

7. That susceptible heifers may occasionally remain negative to the serological tests for this disease for a period of at least four months after *Bacterium abortus* exposure of such severity as to result subsequently in abortions.

8. That through the ingestion of fœtal-stomach material containing *Bacterium abortus* susceptible pregnant animals may readily become infected with the disease.

W. J. Y.

SALE PRACTITIONER SLANDERED.

A successful action to recover damages for alleged slander was brought by Mr. J. B. Parkinson, veterinary surgeon, the White House, Dane Road, Sale, against Mrs. G. M. Grover, who had lived at Pedley House Farm, Great Warford, Cheshire. Mr. Rhodes was for the plaintiff and Mr. Lustgarten for the defendant.

Plaintiff, it appeared from the evidence given at the Manchester Assizes on May 12th, was a veterinary surgeon who had practised for 28 years. He had a licence from the Board of Agriculture to receive dogs coming from abroad and to keep them in quarantine for six months. He had charge of a black retriever bitch belonging to the defendant, whose slander was said to have been published by statements to a kennelman employed by the plaintiff. She was alleged to have said that the plaintiff's premises were not clean, and in the witness-box she described conditions she had observed at the plaintiff's premises which she regarded as unsatisfactory. She did not admit saying of the plaintiff that "she would see the old devil in ——."

It was urged for the defendant that there was no slander and no damage sustained by the plaintiff, except such as he had chosen to make by giving the statement publicity.

Mr. Rhodes said the plaintiff did not ask for heavy damages, but wished to stop slanderous statements.

The Judge found in favour of the plaintiff, and gave judgment for £30, with costs.

DIVISIONAL REPORTS.

Royal Counties Division.

Meeting at Oxford.

The presence of Sir John Moore to speak as to his resolution concerning the establishment of a Veterinary Research Council and the promotion of a lively discussion by the presentation by Mr. W. L. Little of his paper on "Scurvy in Cattle," combined to make the well-attended meeting of this Division, held at Oxford, on April 24th, one of outstanding interest and success.

The meeting was held in the Clarendon Hotel, with the President, Professor G. H. Wooldridge, in the chair, and there were also present:—Messrs. Addis, Baxter, H. Bell, J. Bell, Bull, Collet, Duncan, Hewer, Jagger, E. E. Jelbart, Little, Male, McGuire, McIntosh, Seldon, Taylor, Trewin, Wilkinson, A. E. Willett, and F. W. Willett, together with the Hon. Secretary, Mr. Catmur.

Visitors.—Sir John Moore and Messrs. G. H. Jelbart and Thorne.

The *Minutes* of the previous meeting, which had been published in the *Record*, were taken as read and were confirmed.

Correspondence.

1. *Apologies.*—From Messrs. Austin, Dayer Smith, Dunkin, Hobday, Lloyd, Rees Mogg, Simpson, S. H. Slocock, S. L. Slocock, Tennant and Villar.

2. From the "National," asking for information as to the date of the foundation of the Society. The Society was, said the Hon. Secretary, founded in 1883, and that information was sent.

3. From the "National," covering a circular giving the scale of fees which it had been agreed by the Council of that body should be the minimum fees accepted by veterinary surgeons for inspection work for local authorities.

The President: That scale gives you just an idea of what scales of fees the Council of the National consider should be the lowest you should accept for your services as inspectors. We cannot enter into a discussion on it now—time will not permit, but any question on the scale will be permissible.

No questions were forthcoming, the feeling of the meeting being that the suggested minimum scale was satisfactory, being, indeed, very similar to the scale recommended by the Division itself.

The President, in reference to a communication sent down by the "National," which was being circulated to local authorities, re the Public Health (Meat) Regulations, 1925, explained that these Regulations were coming into force and that the "National" had had a special Committee which had gone into the matter as to whether or no veterinary surgeons might be appointed by local councils as inspectors under them. He thought that was quite clearly pointed out in certain paragraphs, and the "National" had been in correspondence with the Ministry of Health with a view to getting it made clear in others. A letter had been sent down to them that day which he thought the Secretary might with advantage read. It would give them the line which the "National" thought might be adopted with advantage in that connection.

The Secretary read the letter, and the President remarked "It is to be hoped that all veterinary surgeons who desire to take those appointments will do a little spade work with members of local authorities in their districts."

Mr. Coleman: I would ask whether, if the appointment is made, is it of necessity a whole-time appointment, and can the general practitioner act?

The President: General practitioners have already been appointed in several townships and therefore it can be done in others.

In reply to Mr. F. Willett, the President said it was for the general practitioner to decide, when the appointment was offered, whether or no he could undertake the duties.

Mr. Male: I do not think it is necessary for the veterinary inspector to inspect all the carcasses, he will only have to decide on abnormal carcasses.

Election.—Major F. J. Taylor, T.D., of Oxford, was unanimously elected a member of the Division.

Next Meeting.—It was agreed to hold the next meeting (on the last Friday in July) in London, and if possible at the Zoological Gardens, under the guidance of the President.

Any Other Business.—The President: I must make my apology for not having been able to attend at the last meeting. You knew the reason and you very kindly sent me a note of sympathy and an expression of good wishes for my speedy recovery. I received these with very great pleasure indeed, and I must say that they did me a lot of good to receive such expressions of goodwill at that time. I wish to thank you very sincerely indeed for your expression of goodwill on that occasion and to assure you that I have no intention of repeating the offence and that I will attend to my duties more regularly in the future if circumstances permit.

Exhibit and Interesting Cases.

Mr. Trewin: The cranium I have here is from a pony which my partner saw about three weeks since. It had a small swelling over the maxillary sinus and a little blood-stained discharge was issuing from the nostril on one side. He suspected that there might be some trouble from one of the molars. He could find nothing there, however, and nothing was done for the time being. Later the swelling was reported to be increasing and the animal was sent into the infirmary. Yesterday the horse was cast and chloroformed and the swelling opened up. At that time the swelling was the size of an apple, and it was soft to the touch, as though it contained fluid. There was some broken down tissue and the rest appeared to be a tumour growth. It involved the whole sinus and the bone appeared to be destroyed. It was pointed out to the owner that it would be a case of a lot of trouble and little profit, and he preferred to have the animal destroyed. When the frontal sinus was sawn across

it was found that the growth filled up both that and the maxillary sinus. I am not sure of the nature of the growth—it would be interesting to have a section cut to ascertain that.

[Mr. Trewin informs us that he has, since the meeting, forwarded a portion of the growth to Professor Buxton, at Cambridge, who reports that microscopical examination shows it to be a carcinoma.—Ed.].

The President: From its consistence it looks as though it might be a sarcoma. The specimen is one of great interest and one can only come to the conclusion that Mr. Trewin adopted the right procedure when he discovered what was present on opening up the softening over the maxillary bone. It is obviously a neoplasm of some kind, most of the neoplasms near the sinuses of the head, however, have been found to be carcinomas, but they almost always emit an offensive odour and that makes one wonder whether this may not be a sarcoma, but one would not, perhaps, be justified in saying it was so on that point alone.

A vote of thanks was accorded Mr. Trewin for bringing forward the specimen.

Mr. Collet: I have a case I desire to bring forward, I should like some enlightenment upon it. A client of mine had a Labrador bitch and he wrote to me early in March saying she was due to whelp early in April and he asked me to keep an eye on her. This bitch died suddenly on the 10th of April, and I made a *post-mortem*. All the organs were perfectly healthy, to all intents and purposes. In the uterus were seven puppies, all normal, with the exception of one which was anasarcous. The bitch had been well kept and had been exercised regularly on the lead, so there was no possibility of any poison. She appeared perfectly well up to within two hours of her death. Two years ago this man lost a bitch of the same kind under similar circumstances—both of these bitches were in good health, if anything, being on the fat side, and both would have whelped seven or eight to the litter. I remember that I 'phoned Professor Wooldridge about the first one, two years ago. Both were found dead two hours after having been brought in from exercise. The bitch that died on the 10th of April was due to whelp on the 12th.

In reply to questions, Mr. Collet said that there was no discharge and no sign of dilatation of the *os*. There were no brain symptoms. The pups were normal and well nourished. The last bitch had had a litter two years before and was from 3-4 years of age.

The President: I am afraid I am not able to explain the mystery. It may be that it was some form of eclampsia, with this sudden, fatal termination.

Mr. Collet: I have seen the same thing in an odd sow and the only visible thing on *post-mortem* was a clot of blood on one lung.

Mr. Male received the reply from Mr. Collet that no smell of prussic acid was detectable on opening the bitch.

The Hon. Secretary: You did not examine the urine? It might have been albuminous if it was a case of eclampsia.

The President: I am afraid, Mr. Collet, we cannot help you very much on your way to solve the problem.

Mr. Taylor: A Fox Terrier was brought in suffering from very acute sickness. I thought it had taken some form of irritant poison, and I therefore administered a subcutaneous injection of apomorphine, with the result that the sickness became very pronounced, but only a frothy mucous was brought up from the stomach. But a green leaf was voided from the stomach, which was found to be the green plant of the *aconitum nepellus*. The symptoms were acute pain and vomiting. The terrier died in about 10 minutes after taking the leaf. On *post-mortem* the whole of the bowel was filled with fragments of the *aconitum nepellus* leaf. There was nothing in the stomach.

Proposed Veterinary Research Council.

Sir John Moore, in response to the President's invitation, next addressed the meeting on the subject of his resolution (circulated to Divisions by the "National" for consideration and already published in the *Record*) regarding the establishment of a Veterinary Research Council.

Sir John Moore: I must thank you very much indeed for having invited me over here this afternoon to speak on this Resolution. I do not wish to take up very much of your time, but I think perhaps I might say a few brief words on the necessity for and on the constitution of the proposed Council and on the cost of it.

I sincerely hope that this Division will not consign this proposition to the same fate as befell it at the North of England Division as reported in the *Record* a fortnight ago, viz., that it was ordered to lie on the table. Such a circumstance goes to the root of the whole matter, and discloses my reason for having brought this proposition before the "National" and before various societies and, indeed, before the veterinary profession. I think too many things in the veterinary profession have lain on the table, and it is really very sad indeed that it should be so. As examples of what have lain on the table—if I may express it so—and the results, I will instance a clean milk conference, which I attended in the Guildhall three years ago. I was astonished to find on that occasion a paper on tuberculin testing being read by a medical man and the discussion upon it being opened by another medical man—and, so far as my memory serves me, the veterinary profession seemed to be ignored. To me, that seemed very wrong. Again, when "grass sickness" in Scotland was being investigated, the chief investigator was a man who was not a veterinary surgeon. Nutrition of animals also seems to have gone entirely away from the veterinary profession. The chief authority on that is now the Professor of Agriculture at Cambridge University. Even during the war, there was an attempt made to take food questions out of the hands of the Director of Veterinary Services, but I would not allow it. The head of the Committee that was appointed to deal with the foot-and-mouth disease question was not a veterinarian. But if we wish to have the clearest evidence that our superiority in our own affairs is being cut away, we have only to purchase

the report, issued last week, on the Tuberculin Test in Cattle, issued by the Committee appointed by the Medical Research Council. This report emanated from the Medical Research Council, and there are just one or two little paragraphs that I would like to read you from it, which will show you, I think, very clearly, the necessity for veterinary questions being dealt with by ourselves and not by other people. The Medical Research Council appointed, in 1920, a Tuberculin Committee, and the terms of reference were "to undertake a direct investigation into the methods and results of the use of tuberculin for the diagnosis and treatment of human tuberculosis." On that Committee there was "no veterinary surgeon, or representative of the live-stock interests, included amongst the original members." The terms of the reference were subsequently extended to include an enquiry into the tuberculin testing of cattle. Representations were made to the Ministry of Health, and the Ministry of Health referred them to the Ministry of Agriculture. The report adds:—"Before re-investigation of these problems in cattle was begun, officers of the Ministry of Agriculture and Fisheries, who were informally consulted, expressed their interest in the proposed research, but did not desire to be directly represented upon the Committee."

I need not say anything more, I think, about necessity.

The project which I placed before the Central Division of the "National" (proposed by myself and seconded by Mr. McIntosh), is only an instance of the desire to manage our own affairs and to be superior in things that appertain to our own profession.

I do not propose to read the resolution. I made it long, thinking thereby that it would be sufficiently explanatory. I should be very delighted to answer any questions put forward by members of the Association who desire to be enlightened on any point. I would like to correct one little matter in the resolution as it appears on the agenda paper. In paragraph (5), which deals with the constitution of the Research Council, it says that "such Veterinary Research Council should consist of 10 persons chosen for their personal qualities as good counsellors, etc., and that it should include veterinary (1) and medical scientists (3)." This should read veterinary (5) and medical (3) scientists. It might be objected that other people are included in addition to the veterinary people. I purposely included the medical scientists because, after all, the profession of medicine is one—it is medical as well as veterinary. We are constantly in touch with the medical profession and I think it perfectly right that we should include our medical brothers, because they could assist in many ways. I also think a plant pathologist should be included because the lower forms of plant life enter very largely indeed into the bacteriological side of research. Also, an agricultural stock-owner is necessary from the practical side. In any case, I think that with this form of constitution we should have a very much better chance of gaining a Research Council, by making it inclusive.

With regard to the cost, I roughly figure the amount as £2,500. I realise that to go to the Government now for money is difficult. I suggest that each of the ten members of Council should have an honorarium of £100. A Secretary would have to be appointed—I put him down at £500; a clerk, £250; a typist, £150. The rent of an office would amount to probably £200, and publications and papers for co-ordination and circulation, I place at £400, making a total of £2,500.

To revert to the consideration (to which objection might be taken) that I had put down too many medical scientists at 3 and ourselves only at 5, Major Simpson suggested at the Central meeting that there should be 6 veterinary and 3 or 2 medical—I forget which. He thought that the veterinary element should be at least double the medical. I have an open mind on that point. I should be very glad if you would discuss the resolution now, and I should be pleased to answer any questions.

The PRESIDENT: I may say in reference to the error in the wording of the resolution on the agenda paper, that this is in no way the fault of the Secretary, as it was so worded in the copy of the resolution received from the office of the "National."

You have heard this explanation of the resolution by Sir John Moore and I am sure that he and the rest of us would like any questions or any enquiries or criticisms you have to make in connection with it.

Mr. MALE: I quite agree, and I am sure you all do, with many remarks of Sir John Moore as to the necessity of veterinary surgeons dealing with their own affairs in purely veterinary matters. He made, I think, one slight error with regard to the Milk Conference at the Guildhall. There was a paper read on the tuberculin test by Dr. Douglas, but a veterinary surgeon opened the discussion on that paper. (Laughter). On that occasion I made the remark that I was surprised that in a Committee formed to investigate the testing of cattle with tuberculin there was no veterinary surgeon included. After the remarks I made—and I made them fairly strongly—a veterinary surgeon was appointed that night or the next morning. (Hear, hear). Sir John Moore's resolution follows very closely on the proposals that were made by the Commission appointed some years ago to investigate veterinary matters, and they strongly advised that there should be a veterinary Research Council. When Sir John Moore brought the matter up first the "National" asked the Privy Council to give effect to these proposals. They did not see their way to do this. Sir John Moore has plugged away ever since at this thing and there is very great gratitude due to him.(Applause). I do not know that the composition of this Council is not somewhat defeating the object of his first remarks that veterinary men should look after their own affairs. There are other people represented on this Council, and we are not therefore looking after our own affairs. Since Sir John has broached this subject there has been a Committee formed primarily of veterinary scientists and I think they are doing very good work at various institutions

throughout England and Scotland. I do not know whether it would be agreeable to these members if a Committee were constituted as Sir John Moore has suggested, bringing in other scientists. That is a point, which, I think, should be considered. The difficulty, to me, of most of these Committees, is that they are appointed by the Ministry of Health and we have no direct representation on the Ministry of Health. That seems to be the reason for our not being included.

Mr. DUNCAN: No doubt some of the members who live near London, and who are members of other Societies, know a great deal more of this than we who live in the country. To me, at any rate, in reading this resolution, there are many things which are not clear at all. I sometimes feel that when so eminent and respected a member of the profession as Sir John Moore, brings forward a resolution, one is rather inclined simply to vote "aye," because one feels that he would not have brought it forward if it were not a good one. I do not know quite, with regard to the financial aspect of the scheme, how it is going to act, because the Medical Research Council with a very large sum of money behind it,is a body which can give grants if they think it advisable. The Government—which is ourselves—are much too poor to consider a proposition involving such a large sum of money. I do not think the £2,500 would be more than a drop in the bucket to do useful work. There are two things wanted, one is money and the other is men. Research is not being included. So often I have heard from agriculturists that the veterinary profession is doing nothing and I point out to them that the veterinary profession is doing an immense deal, although they do not know it. Having the men, we want the money, and if we simply want money, then let us ask for it. If it is an Advisory Council, then they are not going to do any work themselves—they are merely to advise and to co-ordinate. I do not think you are going to achieve very much more co-ordination by having a Council. We have many eminent men working away and I think we cannot doubt that they will be in touch with one another if any important work has to be done. I quite agree with Sir John's preliminary remarks, but I would like to know something a little more practical as to what is to be done by this Council and how they are going to do it.

Mr. TREWIN: I am sure we are very much indebted to Sir John Moore for coming down this afternoon and explaining this resolution so fully. Personally, I think it is a very important one and a matter which, I am sure, has been engaging the serious attention of the profession for a considerable time. I think it is one that makes for progress and is most desirable and necessary. Mr. Duncan has raised a few points which appear to stand out as prominent ones. Finance strikes you in the eye at once and if you can get the money I think you can get the men—there is no doubt about that. I do not quite understand at present how the proposed money will be found—whether it is a question of the profession finding the money themselves to support this Council, but I certainly should support it most heartily, for if it can be done it is what is wanted very badly, and I think that, if it can be put into practical form, the profession as a whole will support it most heartily.

Mr. F. WILLETT: I am heartily in agreement that anything like this for the good of the profession should be well supported, but of course I, as well as the rest, am thinking where the finances to carry it into effect are coming from. I was interested to hear Mr. Male say that there is now a Committee of 5 veterinary surgeons appointed. Is there any means of strengthening that Committee in the way Sir John Moore suggests: would they feel inclined to amalgamate in this way?

Mr. JAGGER: I have no doubt that there is some reason for the proportion of medical strength being so large and it probably can easily be explained to us why we should be asked to hand over so enormous a proportion of strength in the proposed Veterinary Research Council to the medical profession. The proportion is 5-3 veterinary to medical. I should like to ask what the duties of the agricultural stock-owner would be.

Mr. A. E. WILLETT expressed himself as strongly in favour of the resolution in most of its details, and suggested that the general public should be taken into their confidence with regard to it by its ventilation in various periodicals.

Mr. MCINTOSH: I have already spoken on various occasions with regard to this particular subject. I may say at once that I am in entire agreement with Sir John Moore, except perhaps with regard to the constitution of the Research Council. That, I think, is a matter which follows, provided we agree to the principle. The appointment of a body of this kind would be, to my mind, of great national importance. One appreciates the excellent work done by research institutes, but the results obtained in the laboratory must be applied in the field and it is in that direction, more particularly, that the efforts of a body of this kind would be of extreme value. I am not aware that a Council of the kind referred to by Mr. Male has been appointed by the profession. I take no notice of a haphazard selection unless they are chosen by the profession. With regard to the money required, that, of course, is an important matter which, as has been suggested, would present no unsurmountable difficulty. I would again emphasise my strong support of the principle of the resolution which has been brought forward by Sir John Moore.

Sir JOHN MOORE, replying to the points raised in the discussion, said that in regard to Mr. Male's remarks on the Committee which was already in existence, he did not know, when he put forward the proposition, that there was such a Committee. It was brought to his notice, but that Committee was not an official one at all and how it was appointed he did not know. In his first resolution, more than a year ago, the Council was to consist entirely of veterinary surgeons, but he altered that advisedly, because he thought that if it were made exclusive they would probably have no chance at all of getting a Council. The medical people

had it in their power to help them along very considerably, and so had the agricultural people. With regard to the constitution of the Council, of course members would be nominated by the R.C.V.S. —he thought that that would be the best way to do it. The 5 veterinary members of Council obviously, in his opinion, would be the Directors of the Institutes at Cambridge, Camden Town and Weybridge, also the Director of the Diseases of Animals Research Association in Scotland, and the President of the R.C.V.S. But, of course, if it was the opinion that the 5 should be increased to 6, or even more, they could be nominated from the clinicians of the profession.

With regard to the financial side, he would like them to realise that the sum of £2,500 had nothing whatever to do with the moneys voted for research. That sum was entirely for the payment of a Council which would be advisory and initiatory in all matters of veterinary disease, and also collaborative, which was really the essence, or the secret of success rather, of a Council at all. The Council must collaborate with all other research bodies. His conception of research was that all research ought to be brought under one heading, but at present it was split up, and they were just as much entitled to have their own as anybody else. The money voted for research purposes would go on as heretofore. The Government would have to be approached for the £2,500, and the question arose through what channel they would have to ask for it. The moneys devoted to the Medical Research Council were dealt with by the Privy Council. They would have to approach the Privy Council and secure it through the Development Commission, which already had charge of the moneys devoted to research in agriculture. He thought it would be policy to stick to the Development Commission so long as that Commission existed. There was talk of its abolition, but it was necessary for that Commission to exist, because, under the Corn Production Act, moneys had to be doled out to different people and it was the Development Commission that did it. There would be no difficulty in finding the medical scientists, who would be nominated by the General Medical Council. The three medical scientists he had in mind were Sir William Leishman, Dr. Leiper and Dr. Nathan Raw.

The major portion of the Council, however, should be veterinarians. He thought, with Mr. McIntosh, that the necessary thing was to get the principle established, then other things would fall into line.

The PRESIDENT: I think we should take some action from the point of view of the "National," which requires from you an expression of your support or otherwise of this resolution. Has anyone any proposition to bring forward regarding it?

It was proposed by Mr. F. WILLETT, seconded by the Hon. Secretary, supported by Mr. Coleman and carried *nem. con.*—"That the Royal Counties Veterinary Medical Association adopts the principle of the Resolution as brought forward by Sir John Moore."

The President called upon Mr. W. L. LITTLE to

(*Continued at foot of next column.*)

Lancashire Division.

MEETING AT MANCHESTER.

A General Meeting of the Lancashire Division was held at the Grand Hotel, Aytoun Street, Manchester, on February 11th, 1925, at 3-30 p.m. The chair was taken by the President, Mr. J. T. Allen, and other members present were Messrs. Michaelis, Spruell, Curbishley, Mayall, Urmson, Holmes, P. Abson, Holroyd, Lindsay, Matthews, Lord, Whitehead, Ball, Edwards, Hopkin, Noel-Pillers, Woods, Walker, Oddy, Ackroyd, Lancaster, Harrison, Wilson, and J. W. Brittlebank. *Visitors*: Messrs. Powley, Procter, Mills, and K. D. Downham.

Apologies: Messrs. Carter, Locke, Torrance, and Millington.

The minutes of the last meeting were taken as read and were signed.

CORRESPONDENCE. (1) From the Secretary of the Derbyshire Division thanking the Lancashire Division for the reception given them at the combined meeting held in Manchester.

(2) From the Yorkshire and Derbyshire Divisions agreeing to combine with the Lancashire Division in issuing a joint election circular for candidates seeking election to the Council of the Royal College of Veterinary Surgeons.

(3) A letter from the Secretary of the N.V.M.A. enclosing a copy of a resolution from the Central Division by Major-General Sir John Moore, K.C.M.G., with regard to the establishment of a Veterinary Research Council, was read, and after some discussion it was agreed that the matter be again discussed at the quarterly meeting in April, and that Sir John Moore be invited to attend that meeting to give further particulars; the matter to be considered by the Council in the meantime.

(4) From the Secretary of the Royal Sanitary Institute with reference to the appointment of delegates to a Conference to be held at Edinburgh in July next. It was agreed that a delegate's fee be

(*Continued from previous column.*)

read his paper on "Scurvy in Cattle." (This paper and the discussion which ensued are published elsewhere in this issue.—Ed.).

The paper aroused a very animated discussion and the members examined with great interest the specimens of bone and muscle and photographs exhibited in connection therewith.

Prior to the discussion an adjournment was made for tea as guests of the Hon. Secretary, the visitors being also invited.

The meeting concluded with the passing of votes of thanks to the Hon. Secretary for entertaining the company, to Mr. Little for his paper and to the President for his conduct in the chair.

R. CATMUR,
Hon. Secretary.

paid, and that the delegate be appointed at a later date.

(5) Letters from Messrs. T. O. Richardson, Tarporley, R. Ward and P. Gillespie, Salford, intimating their desire to resign from the Association. These resignations were accepted with regret.

Nominations. The following gentlemen were nominated for membership of the Division: T. Weston Woodhead, Bowdon; K. D. Downham, Liverpool; J. H. Gillespie, Doncaster; J. O. Powley, Harrogate; N. Wooley, Liverpool; L. A. Watson, Southport; and A. J. Caldwell, Westhoughton.

Election of New Members. The following gentlemen were elected members of the Division: Dr. T. Hare, B.V.Sc., M.R.C.V.S., Liverpool; Mr. R. P. Holmes, F.R.C.V.S., Bolton; and Mr. T. McGhee, M.R.C.V.S., Tattenhall.

Clinical Reports.

Amputation of the Claws of Cattle, by Mr. P. T. Lindsay, M.R.C.V.S.

In this short address on amputation of the claws of cattle, I wish to confine my attention to amputation of the third phalanx only, and especially where the operation is indicated in dairy cows. It is, to my mind, an operation well justified by results, and one which is not perhaps resorted to by practitioners as often as it should be.

Foul in the feet and picked-up nails or other foreign bodies are conditions fairly common in cattle, and during the recent wet summer, in my district at any rate, "foul" was particularly prevalent. This I attributed to farm yards and gateways into and out of fields becoming converted into squelching quagmires up to six inches deep or more, and containing septic and irritating material through which the cows were obliged to pass at least twice daily. It can easily be imagined how a high percentage of a herd subjected to such conditions fall victims of foul in the feet.

Usually when a practitioner is called to attend a case of "foul," he finds the condition has already been diagnosed by the owner or cowman and some sort of treatment adopted. This treatment often takes the form of the drawing of a tarred rope to and fro between the digits (which is tremendously painful and cruel), followed by the application of a poultice applied directly to the foot and left in position till it is quite septic, or, instead of a poultice, the coronet might have been smeared with tar, with or without the application of a bandage.

If, on examination of the foot (and to do so properly it is often necessary to cast the animal) it is found that the infection has not extended to the deeper structures, then the thorough cleansing and disinfection of the parts, followed by a suitable dressing, will often be attended with good results and an early recovery. On the other hand, however, if the surrounding tissues have become involved with intense inflammation extending round the coronet, and abscess formation is obviously in progress, accompanied by the usual constitutional symptoms, the animal able to bear little or no weight on the affected foot, an irregular appetite, already a noticeable loss of condition and the milk yield greatly diminished or perhaps in abeyance, then I maintain that amputation of the affected claw should be practised at once. Any other treatment, such as fomentations, the maturing and lancing of abscesses and the establishment of the necessary drainage with dressings, etc., takes too long, during which time, although a recovery does eventually follow, the animal has probably been reduced to a skeleton, with little hope of any profitable milk yield during the lactation period, and on top of all this, a veterinary bill which must necessarily be fairly heavy, tends to create a dissatisfied owner.

Picked-up nails or puncture wounds on the solar surface or internal aspect of the digit implicating the navicular bursa or pedal joint are also conditions where the immediate amputation of the claw is indicated.

The operation is simple.

Before casting the animal administer 1½ oz. of chloral hydrate in one quart of warm water per os. Cast and fix with the affected limb extended in a convenient position. Then inject a local anæsthetic over the plantar nerves on each side, immediately above the fetlock. Several small injections should also be made round the coronet immediately above the swollen and inflamed tissues, and I also, as a rule, make two deep injections of like quantity into the interdigital space. I have recently used with excellent results Waite's Local Anæsthetic—a solution of procaine, and from 4 to 5 cc.s, if properly deposited over the plantar nerves and around the coronet, will permit of an absolutely painless operation in from ten to fifteen minutes.

The hoof immediately under the coronet is rasped quite thin, and an elastic band or tourniquet applied above the fetlock. The pedal joint can now be located by manipulation of the digit, and a scalpel introduced from the outside inwards directly into the joint and, following the outline of the joint, is carried forwards and all the structures incised.

The scalpel is again introduced and carried backwards, while the separating claw is manipulated with the other hand, and the amputation is soon completed. Posteriorly, the incision should curve slightly downwards, following the posterior aspect of the pedal bone, then backwards underneath the navicular, which should be left in position unless actually diseased. This keeps the heel intact, which greatly assists in shortening the healing process.

All necrosed tissues should now be carefully removed and abscess cavities cleared and curetted, and the curette should also be applied to the exposed surface of the second phalanx to promote granulation. When satisfied that no more diseased tissue remains and abscess cavities have perfect drainage, I freely apply a wound powder composed of one part of iodoform to three parts of eupad. A thick layer of cotton wool, also liberally dusted with the same dressing, is then applied and tightly bandaged. This completes the operation.

XUM

On removal of the tourniquet considerable bleeding might take place, but if the wound is properly padded and bandaged the blood should not penetrate the outer layers of the bandage. In four days the dressing is removed, the wound gently cleansed with a mild antiseptic solution, and the dressing re-applied. From now onwards it is simply a case of dressing the wound every third or fourth day and varying the dressings at discretion to promote or check granulation. With proper instructions this can usually be left to the owner or cowman of average intelligence, with a personal visit and careful examination every ten days or a fortnight.

The patient is, as a rule, much more comfortable within forty-eight hours of the operation, and within a week the constitutional disturbance is much reduced, often with a normal appetite and returning milk flow. In a fortnight, noticeable weight will be borne on the affected limb, and in from five to six weeks the patient will be able to walk tolerably well. Eventually the whole surface will be covered with a new formation, which will gradually become converted into a pad of horn.

Yesterday I saw a cow on which I operated last September. On the inside claw of the left hind foot, the second phalanx is completely covered with an irregular hoof, the outside of which comes in contact with the ground. She walks and runs perfectly sound.

Concerning obstinate cases of "foul" or other suppurative conditions in or around the claws of cattle, my recommendation is to amputate early and amputate often.

POISONINGS BY SOLANUM DULCAMARA (BITTER-SWEET), by F. G. Edwards, F.R.C.V.S. With analytical notes by Harold Lowe, M.Sc., F.I.C.

Repeated cases of poisoning by Solanum Dulcamara —commonly known as woody or climbing nightshade, or bittersweet, are few, and the matter appears to have received but little attention. But as the weed is very prolific and common, it is quite possible cases have been overlooked. Some authorities consider the plant is not toxic to animals, consequently my notes and the analyst's report may be of interest.

According to Lander's *Veterinary Toxicology*, M. W. Graham Gilham in 1906 observed cases of solanin poisoning in sheep, with the following symptoms: small intermittent pulse, temperature 104° F., quick respiration, dilated pupils, staggering gait and greenish diarrhœa. The *post-mortem* examination showed the blood to be dark, and tarry, and the ventricles of the heart firmly contracted.

Harold C. Lang in his "Plants poisonous to Live Stock" says: "some doubt exists in regard to the toxic properties of Solanum Dulcamara, some regard the berries as harmless and other as poisonous; probably the plant varies in toxity."

Flayess says: "thirty berries killed a dog, and that though stock rarely touch the plant there seems to be no doubt that it is poisonous, the stem, leaves and berries contain the toxic alkaloid."

Moussu says: "the leaves are suspected of being poisonous to stock."

An anonymous writer in the *Mark Lane Express* July 24th, 1913, emphatically states that he has known 14 per cent. of sheep on a farm killed by it in a year.

The general toxic symptoms produced by the Solanaceæ group appear to be delirium, spectral illusions, dilated pupil, thirst, dry mouth, incoordination of movement and diarrhœa.

In October, 1922, I was called in to see a thoroughbred foal five months old. He was found in the early morning looking listless and suffering from diarrhœa, and little food had been taken during the preceding twelve hours. On my arrival I found the temperature 105° F., pulse 120, respiration hurried, abdomen distended, pain on pressure, very uneasy and unsteady in the gait, and the pupil was quite noticeably dilated. These symptoms became more intensified during the day with patchy sweats, delirium, watery diarrhœa, and acute abdominal pain. Death took place in the early evening.

The *post-mortem* examination made next morning showed dark tarry blood, patches of inflammation of a deep pink colour in the stomach and intestines; no other lesions were found.

A portion of the contents of the stomach was sent to the analysts, whose report I will read later.

Solanum Dulcamara with its green and red autumnal berries, was found to be very prolific in the hedgerows of the paddock in which the mare and foal had been grazing.

In September 1924, I was asked one morning to see a cow which appeared to be suffering from indigestion, the rumen was a little distended and appetite somewhat impaired. I gave the usual stomachics used in these cases and expected an early recovery, but, at about 6 p.m., I received a telephone message to say the cow was very ill. I found her standing in a loose box, staggering gait on being pressed to move, grunting painfully, temperature 105° F., rapid pulse, symptoms of delirium and diarrhœa. She gradually became worse and she could not rise. On the third day, delirium became very marked, and she died on the fourth day.

Post-mortem examination showed acute inflammation of all stomachs and the intestines, no other apparent lesions.

Portions of ingesta sent to analysts (report below).

Large quantities of Solanum Dulcamara (in fruit) were found in the hedges of the field in which the cow had grazed previous to her illness. Instructions were given to remove all the plants.

During the next two days, two other cows were taken ill, they had still been turned out in the same field and, despite my instructions, all the plants had not been removed. These showed symptoms of diarrhœa, grunting, and staggering gait, but recovered in the course of a week.

Portions of the fæces sent to the analysts (*q.v.*).

From these cases occurring in the autumn when the berries became ripe, it appears quite possible that

they, or other portions of the plant may, at this time of the year, contain more of the toxic alkaloid.

Lander says "Bittersweet contains a second alkaloid—Dulcamarine, to which is attributed the mydriatic effect which is not characteristic of Solanine."

Poisoning by Solanine. Mr. LOWE said: "Bitter-sweet contains the alkaloid Solanine, which is also found in the potato plant, and in Garden Nightshade."

The berries of Bitter-sweet are stated to contain from 0.3 per cent. to 0.7 per cent. of Solanine.

A glucoside Dulcamare in is also stated to be present but this has not been clearly identified.

The alkaloid Solanine is readily hydrolised by mineral acids into Solanidine so that in cases of poisoning both alkaloids are usually found after extraction.

The method for detection is the usual Stas Otto extraction of alkaloids from viscera, but Solanine being practically insoluble in ether or chloroform a final extraction with warm amyl alcohol from ammoniacal solution is necessary as this is the most suitable solvent for the alkaloid. Unless morphine is suspected it is unusual in a search for alkaloids to extract with amyl alcohol, so that in a general analysis for alkaloids Solanine might easily be missed.

Solanine is stated to be extracted from acid solutions by ether, but I have been unable to verify this; my experience being that a mixture of Solanine and Solanidine is left after the evaporation of the amyl alcohol extract.

Case 1. 19th October, 1922. *Stomach Contents of Foal*:

The stomach contents, after washing with water, were found to be very finely divided, no leaves or other characteristic parts of plants were found.

250 grammes were extracted for alkaloids and 0.085 grammes of a mixture of Solanine and Solanidine were found.

The tests used to identify the alkaloids were: A concentrated solution of the alkaloids in amyl alcohol sets to a jelly like consistency.

Phospho Molybic Acid ...	Cream coloured precipitate
Frohde's Re-agent ...	Violet colour
Nitric Acid	Purple on warming
Vanadic Sulphuric Acid ...	Red and finally violet on warming
Ethyl Sulphuric Acid ...	Red colour
Concentrated Sulphuric Acid—Bromine Water ...	Red streaks
Solenic Sulphuric Acid ...	Red

The stomach contents were analysed for other poisons with negative results.

Case 2. 19th September, 1924. *Stomach Contents of Cow.*

The stomach contents after washing consisted mainly of portions of fibrous stem, and some portions of leaves which closely resembled those of Bitter-sweet, no berries nor seeds were found.

100 grammes of the stomach contents were extracted for alkaloids. The final amyl alcohol extraction contained 0.06 grammes of a mixture of Solanine and Solanidine.

The same tests were employed as for Case 1, with the addition of a test on blood in physiological salt solution. The alkaloids were found to have a strong hæmolytic action which is a property of these alkaloids. (This test is also given by saponins and other protoplasmic poisons.)

The stomach contents were analysed for other poisons but nothing of a poisonous nature was found.

The fæces from other cows suffering were examined, and an extraction for Solanine was made, but no alkaloids were found, so that it appears as if Solanine is not excreted as such in the fæces.

(To be continued.)

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest in these columns

Diary of Events.

May 28th—R.C.V.S. Voting Papers to be returned.
,, 30th—Meeting of the North of England Division at Durham.
June 4th—R.C.V.S. Annual General Meeting. Earl Haig to attend to receive Diploma of Honorary Associate.
,, 19th—R.A.V.C. Annual Dinner, Hotel Cecil.
July 2nd—R.C.V.S. Annual Dinner, Hotel Victoria.

A Notable Anniversary.

DR. GRIFFITH EVANS, D.Sc., M.D., C.M., M.R.C.V.S.

We tender our respectful and affectionate congratulations to the venerable father of our profession, Dr. Griffith Evans, who on May 24th celebrates the seventieth anniversary of his graduation as a member of the Royal College of Veterinary Surgeons.

Dr. Evans, who resides in Bangor, North Wales, has recently been ill, but we are happy to say he is now recovered, and we sincerely wish him a complete restoration to health. He has always led an active life, and is still a remarkable example of mental and physical energy.

It was his discovery of the causal organism of Surra in the early eighties, when he was an officer of the A.V.D., in India, in the days when the "germ" theory of disease was being hotly debated, that first made his name.

He has been a lifelong student, and has kept himself always in touch with the advance of scientific thought. He was recently awarded the Doctorate of Science, *honoris causa tantum*, by the University of Wales for his contributions to Science, and the Royal College of Veterinary Surgeons, in 1918, did itself the honour of numbering him among the recipients of the John Henry Steel Memorial Medal. We are proud of the achievements of our revered friend, and sincerely congratulate him on attaining an anniversary which it is given to few men to attain.

May to-morrow bring him happy memories of useful things accomplished, and of a life well spent in the service of his fellow men.

Major G. W. Dunkin, who assisted Professor Buxton in making many of the intradermal tuberculin tests which form the basis of the Tuberculin Report, issued by the Medical Research Council, has generously offered to give demonstrations of the test to any veterinary surgeons or veterinary societies who wish for them.

Applications should be sent either to Professor Buxton or to Major Dunkin direct, or will be forwarded if sent to this office.

The candidates for election to the Council of the Royal College of Veterinary Surgeons are as follows: J. McKinna, Huddersfield; J. H. Carter, Henley-on-Thames; W. S. King, Limehouse; S. H. Slocock, Hounslow; T. F. Spencer, Kettering; E. Alfred West, Gray's Inn Road, London; P. J. Simpson, Maidenhead; C. Blackhurst, Broughton, Preston. The above are retiring members of the present Council, and seek re-election. New candidates are A. W. Whitehouse, Principal, Glasgow Veterinary College; T. Dunlop Young, Veterinary Surgeon, Corporation of London; F. T. G. Hobday, Consulting Veterinary Surgeon, London.

We hope members will make a point of registering their votes without fail.

Royal College of Veterinary Surgeons.

Obituary.

Groome, Samuel T., M.R.C.V.S., Kent House, Dalkey, Ireland. Graduated London, December 20th, 1888. Died May 5th, 1925.

Mr. Percy Gregory, Tonbridge.

We regret to record the death, on Friday, May 15th, at the age of 69 years, of Mr. Percy Gregory, M.R.C.V.S., of 183 High Street, Tonbridge. "Mr. Gregory," says the *Kentish Express*, "was one of the best known veterinary surgeons in the county. He had been making the tuberculin test of cows on the farm of Major the Hon. J. J. Astor, M.P., Hever Castle, on Thursday, and after the injections complained of abdominal pain, and turning to his medicine chest, remarked, 'A drop of chlorodyne will make it better.' He was staying the night at the house of Mr. James Smith, the steward, and after supper, while looking at a picture paper, suddenly dropped his head. His breathing became laboured, and he lapsed into unconsciousness, from which he never recovered. A doctor was summoned from Tonbridge, and Mr. Gregory was put to bed, and died about three o'clock the following afternoon. An inquest was held on Monday, when Dr. Newton explained that he found the eyelids contracted, and suspected opium or morphine poisoning. On making a *post-mortem* examination, he found no hæmorrhage of the brain, and the heart and other organs healthy for a man of that age. He came to the conclusion that death was attributable to morphine poisoning, probably to an overdose of chlorodyne. The verdict was 'Death by misadventure.' The Coroner (Mr. Arthur H. Neve) expressed sympathy with the widow, and observed that the name of Gregory had been a household word in Tonbridge in connection with veterinary matters for a hundred years, and his death would leave a gap in veterinary circles that would be difficult to fill.

"Mr. Gregory was the son of the late Thomas Gregory, whom he succeeded in his practice, his brothers Frank and Donald both entering the same profession, while he was related to the Crowhursts, the well-known family of veterinary surgeons at Maidstone. Among the offices he held were those of Vice-President of the South-Eastern District Association of Veterinary Surgeons (and on account of increasing deafness he declined a pressing invitation to the presidency). Veterinary Inspector to the Kent County Council for the Tonbridge Division, Veterinary Officer to the Tunbridge Wells and South-Eastern Counties Agricultural Society, the Kent Canine Society, the Tonbridge Market, and the Fat Stock Show.

"Animals' Welfare Week was being observed in Tonbridge, and presiding at a special meeting of the Tonbridge Brotherhood on Sunday afternoon, Mr. S. J. Turner, said: 'it was a tragic coincidence that the town was mourning the loss of one who was a great lover of animals, and who by his professional skill over a long period of years had brought healing and relief to the dumb creation.'"

Mr. W. Scott's Bereavement.

The death took place last week, under sad circumstances, of Mrs. Harriett Lilian Scott, wife of Mr. W. Morgan Scott, F.R.C.V.S., veterinary surgeon, of Fryern House, Bridgwater.

The deceased lady had been medically attended occasionally of late, but on the morning of the day of her death was about as usual. About mid-day Mrs. Scott went out for the purpose of going to Highbridge to see Dr. Burns, her medical attendant, as she had been in the habit of doing periodically for the past two years. She entered the doctor's premises suffering from a heart attack and passed away before Mr. Scott could be summoned.

The news of Mrs. Scott's sudden death cast quite a gloom over the town, where, says the *Bridgwater Mercury*, "she was held in the very highest esteem, being of an exceedingly kind and genial disposition." The deceased lady, who would have attained her 49th birthday on the 24th of this month, was the second daughter of the Rev. E. C. Lister, late Rector of Stanningley, Yorks., and had an illustrious ancestor in Sir Martin Lister, F.R.S., physician to Queen Anne, whose niece became the famous Sarah, Duchess of Marlborough. In her younger days Mrs. Scott was captain of the Harrogate Ladies' Golf Club, and held two gold medals. During her residence in Bridgwater, since her marriage Mrs. Scott had been a devoted worker in connection with St. Mary's Church.

His Royal Highness The Duke of York, K.G., K.T., G.C.V.O., has graciously consented to accept the Honorary Presidentship of the Thirty-sixth Congress of the Royal Sanitary Institute, to be held at Edinburgh from July 20th to July 25th, at which the Right Hon. Sir John Gilmour, Bart., D.S.O., M.P., Secretary for Scotland, will preside and deliver the Inaugural Address. A Health Exhibition is held in connection with the Congress.

Twenty-one outbreaks of foot-and-mouth disease have occurred in Great Britain since December 31st last, and £29,669 has been paid in compensation. Mr. Wood (Minister of Agriculture), in giving this information recently in a Parliamentary answer in reply to Mr Spencer (Soc., Broxtowe), added that the total numbers of animals slaughtered in consequence of the disease since January 1st, 1921, up to the 9th inst., were:—Cattle, 137,676; sheep, 78,467; pigs, 61,624; and goats, 186.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

Conflicting Veterinary Evidence.

To the Editor of the Veterinary Record.

Sir,—In yesterday's issue of *The Daily Mail*, Mr. S. Pope, the stipendiary magistrate for the North London Police Court is reported to have said:—"I have never known two veterinary surgeons to agree."

For some years Mr. Pope has been trying cases under the Cruelty to Animals Acts. These cases have been very numerous. I have seen four and five horses waiting their turn in the yard outside the court on several occasions.

The cases are nearly all brought forward by one police constable who, during the war, served in the ranks of the Army Veterinary Corps. Mr. Pope is always advised in these cases by the same veterinary surgeon, who is called by the police constable already mentioned.

For the defence, veterinary surgeons come on behalf of their clients from all parts of London, and among these veterinary surgeons there are no doubt some honest and intelligent men.

But Mr. Pope says that he has never known two veterinary surgeons to agree; that is to say, he has never known the particular veterinary surgeon employed by the police at his Court to agree with any one of the many veterinary surgeons who have given evidence for the defence. The conclusion to be drawn is obvious, and I invite the attention of the Council of the Royal College of Veterinary Surgeons to what, as the result of Mr. Pope's own words, has become a public scandal.

The veterinary disputes at the North London and at the Highgate Police Courts are notorious, and the reasons for these disputes are perfectly well known. In the North London Police Court there is so little respect for our profession, that both the magistrate and his clerk usually refer to us as "Vets." It is rare to hear the full title given.—Yours faithfully, J. W. Rainey.

20 High Street, Bow, London, E.3.
May 14th, 1925.

[The statement in the *Daily Mail*, to which our correspondent refers, appeared as an item in the "Far and Near" column of that paper.—Ed.].

The Exportation of Horses.

To the Editor of the Veterinary Record.

Sir,—Your correspondent, Mr. Donald Campbell, begins by informing us that he is one of "the only body of men in this country whose main business in life is the alleviation of animal suffering." (I seem to have heard rumours of a few Humane Societies and their Staffs—but let that pass.) Mr. Campbell goes on to say that, on this account, he and his colleagues cannot ignore the Export of Horses for Butchery, "until the charges of cruelty in its conduct have been rebutted."

So Mr. Campbell obtains pamphlets from the R.S.P.C.A., one a very ancient one, written by me. He rebuts all the evidence with one simple and comprehensive "I cannot say that the style of the pamphlets is very judicial." In what sense can a plain record of facts seen, be "judicial?" Will Mr. Campbell explain?

But something must be definitely rebutted. I stated that one cause of suffering, inseparable from this Export, is hunger between landing and death; that some horses, landed at Antwerp, stood all day without food or water, started towards evening on a long tramp to their place of slaughter, were not killed before the next day, and had no food before death. And I drew attention to the fact that though "there is hay on the boats, horses cannot eat in rough weather." I think it is quite obvious that I mention this because it adds to the horses' subsequent suffering from hunger. But Mr. Campbell detaches that sentence from the sequence that gives its meaning; holds it up to ridicule, and calls it "the very essence and quiddity of uncontrolled sentimentalism."

After this feat and vague talk about "unthinking and sentimental people," "sentimental vapouring," etc. Mr. Campbell winds up with a fervent appeal for "facts" from "first-hand knowledge."

I recommend Mr. Campbell to write to the R.S.P.C.A. for my last pamphlet, where he will find what he asks for. All I ask of him is to point out one single instance of "sentimental vapouring," in anything under my signature, and to leave my sentences in the environment that gives them sense.—Yours faithfully, A. M. F. Cole.

30 Kestrel Avenue,
Herne Hill, S.E. 24.
20th May, 1925.

Export of Horses for Food.

To the Editor of the Veterinary Record.

Sir,—As a result of a brush with a correspondent in *The Daily Dispatch*, I too, received some articles from a supporter of the R.S.P.C.A. on the above subject. They did not impress me, except to show how little the writer of them understood the nature of *evidence*. The badly drawn representation of a repulsive individual looking at a black stream issuing from a horse's chest was of the type of the sensational illustrations one used to see 35 years ago in *The Police News*. It was not a photograph, but an attempt to depict the artist's frame of mind. What we are mainly concerned about is the condition of the horses when they are sent over the water and the comfort of their transport. The aim of "Cruelty" Societies should be to stop cruelty and not to try and stop trade. If cruelty exists on the French and Belgian sides it is clearly the duty of the French and Belgians to deal with it either by legislation or education, or both.—Yours truly, G. Mayall.

Bolton.

The Editor acknowledges the receipt of the following:—
Communications from Messrs. H. Gray and J. F. D. Tutt.

Report of a meeting of the Derbyshire Division from Mr. O. V. Gunning, Hon. Secretary.

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*Ref'ces.: Prof. Lander in "Veterinary Toxicology," Prof. Froliner, Neumann's "Parasites of Animals," Prof. Cave in the "Agricultural Gazette," 7th November, 1924, also the Veterinary Adviser to the "Farm and Stockbreeder," in the issue of October 27th, 1924.